

Hemolytic Uremic Syndrome (HUS)

Agent: Serious sequelae associated with infection from Shiga toxin-producing bacteria (*E. coli* or *Shigella*). *E. coli* O157:H7 is the bacterium most commonly associated with HUS.

Mode of Transmission: Ingestion of food or water contaminated with human or animal feces, or direct transmission from infected persons or animals. Fomites and contaminated environment may also play a role in transmission.

Signs/Symptoms: Classic signs of hemolytic uremic syndrome include red blood cell destruction (hemolytic anemia), low number of platelets (thrombocytopenia), and acute kidney failure. Symptoms include decreased frequency of urination, fatigue, progression to kidney failure, often requiring dialysis, as well as neurological impairment (e.g., stroke or seizures). HUS, if it occurs, develops on average seven days after the first symptoms of infection.

Prevention: Hands should be washed carefully after using the bathroom, after changing diapers or cleaning a child who has used the bathroom, after handling animals or their feces, and before preparing and eating food. All ground beef should be cooked thoroughly to an internal temperature of at least 160°. Raw milk, unpasteurized dairy products, and unpasteurized juices should not be consumed. Persons with diarrhea caused by *E. coli* O157:H7 should not use recreational waters for 2 weeks after symptoms have resolved. Outbreaks occurring in child care centers should immediately involve public health assistance to prevent further disease.

Other Important Information: Five to ten percent of persons diagnosed with Shiga toxin-producing *E. coli* infection develop HUS. The syndrome occurs in up to 15% of children with *E. coli* O157:H7 infection. For more information, see the section of this report on *E. coli* Infection, Shiga Toxin-Producing.

Three cases of HUS were reported during 2012. This is similar to the five-year average of 2.0 cases per year. One of the reported cases occurred following an infection with Shiga toxin-producing *E. coli* O157:H7. Of the two remaining cases, one had no bacterial testing performed, while the other tested negative for bacterial pathogens, but was linked to a family member infected with *E. coli* O157:H7. All three illnesses occurred in young school aged children; one was female and two were male. Two cases were reported from the northwest region and the third from the southwest region. Two had illness onset during the second quarter and the other during the third quarter of the year. No deaths occurred as a result of the infection.